

U.S. Application Serial
No. 09/333,159

Attorney Docket No. 10147-6
(MBI099-030)

**Clean Copy of Claims, as Amended
in the Amendment Filed in Response to the
Office Action Dated 20 May 2002**

1. (Thrice Amended) An isolated nucleic acid molecule that encodes a polypeptide which exhibits lipase activity, wherein the isolated nucleic acid molecule is selected from the group consisting of:

- a) a nucleic acid molecule having a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof;
- b) a nucleic acid molecule comprising at least 100 nucleotide residues and having a nucleotide sequence identical to at least 100 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof;
- c) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence encoded by SEQ ID NO: 46;
- d) a nucleic acid molecule which encodes at least 20 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46; and
- e) a nucleic acid molecule which encodes a variant of the amino acid sequence encoded by SEQ ID NO: 46, wherein the nucleic acid molecule hybridizes in 6× sodium chloride/sodium citrate (SSC) at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

39. The isolated nucleic acid molecule of claim 1, wherein the molecule hybridizes in 6× SSC at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at

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50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

24. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule has a sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

25. The isolated nucleic acid molecule of claim 24, wherein the nucleic acid molecule has a sequence which is at least 95% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

26. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises at least 100 nucleotide residues and has a nucleotide sequence identical to at least 100 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

27. The isolated nucleic acid molecule of claim 26, wherein the nucleic acid molecule comprises at least 150 nucleotide residues and has a nucleotide sequence identical to at least 150 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

28. The isolated nucleic acid molecule of claim 27, wherein the nucleic acid molecule comprises at least 500 nucleotide residues and has a nucleotide sequence identical to at least 500 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

29. (Amended) The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule encodes a polypeptide comprising the amino acid sequence encoded by SEQ ID NO: 46.

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30. (Twice Amended) The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule encodes a polypeptide comprising at least 20 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46.

31. (Amended) The isolated nucleic acid molecule of claim 30, wherein the nucleic acid molecule encodes at least 25 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46.

33. (Amended) The isolated nucleic acid molecule of claim 30, wherein the consecutive amino acid residues comprise an immunogenic portion of the protein having the amino acid sequence encoded by SEQ ID NO: 46.

32. (Twice Amended) The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule encodes a variant of the amino acid sequence encoded by SEQ ID NO: 46, wherein the nucleic acid molecule hybridizes in 6× SSC at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

2. (Twice Amended) The isolated nucleic acid molecule of claim 1, which is selected from the group consisting of:

- a) a nucleic acid having the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof; and
- b) a nucleic acid molecule which encodes the amino acid sequence encoded by SEQ ID NO: 46.

3. The nucleic acid molecule of claim 1, further comprising vector nucleic acid sequences.

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4. The nucleic acid molecule of claim 1 further comprising nucleic acid sequences encoding a heterologous polypeptide.
5. A host cell which contains the nucleic acid molecule of claim 1.
6. The host cell of claim 5 which is a mammalian host cell.
34. The host cell of claim 5, which is a prokaryotic host cell.
7. A non-human mammalian host cell containing the nucleic acid molecule of claim 1.
12. (Thrice Amended) A method for producing a polypeptide that exhibits lipase activity, the method comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.
35. (Amended) The method of claim 12, wherein the polypeptide comprises the amino acid sequence encoded by SEQ ID NO: 46.
36. (Amended) The method of claim 12, wherein the polypeptide comprises at least 20 contiguous amino acids of the amino acid sequence encoded by SEQ ID NO: 46.
41. (New) The method of claim 36, wherein the polypeptide is an immunogenic portion of the protein having the amino acid sequence encoded by SEQ ID NO: 46.
37. (Twice Amended) The method of claim 12, wherein the polypeptide is a variant of the polypeptide encoded by SEQ ID NO: 46, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 6x SSC at about 45°C, followed by one or more

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washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

42. (New) The method of claim 37, wherein the polypeptide is an immunogenic portion of the protein having the amino acid sequence encoded by SEQ ID NO: 46.

43. (New) An isolated nucleic acid molecule that encodes an immunogenic portion of the protein having the amino acid sequence encoded by SEQ ID NO: 46, the isolated nucleic acid molecule being selected from the group consisting of:

- a) a nucleic acid molecule having a nucleotide sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof;
- b) a nucleic acid molecule comprising at least 100 nucleotide residues and having a nucleotide sequence identical to at least 100 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof;
- c) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence encoded by SEQ ID NO: 46;
- d) a nucleic acid molecule which encodes at least 20 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46; and
- e) a nucleic acid molecule which encodes a variant of the amino acid sequence encoded by SEQ ID NO: 46, wherein the nucleic acid molecule hybridizes in 6× sodium chloride/sodium citrate (SSC) at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

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44. (New) The isolated nucleic acid molecule of claim 43, wherein the molecule hybridizes in 6 \times SSC at about 45°C, followed by one or more washes in 0.2 \times SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

45. (New) The isolated nucleic acid molecule of claim 43, wherein the nucleic acid molecule has a sequence which is at least 90% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

46. (New) The isolated nucleic acid molecule of claim 45, wherein the nucleic acid molecule has a sequence which is at least 95% identical to the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

47. (New) The isolated nucleic acid molecule of claim 43, wherein the nucleic acid molecule comprises at least 100 nucleotide residues and has a nucleotide sequence identical to at least 100 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

48. (New) The isolated nucleic acid molecule of claim 47, wherein the nucleic acid molecule comprises at least 150 nucleotide residues and has a nucleotide sequence identical to at least 150 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

49. (New) The isolated nucleic acid molecule of claim 48, wherein the nucleic acid molecule comprises at least 500 nucleotide residues and has a nucleotide sequence identical to at least 500 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof.

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50. (New) The isolated nucleic acid molecule of claim 43, wherein the nucleic acid molecule encodes a polypeptide comprising the amino acid sequence encoded by SEQ ID NO: 46.

51. (New) The isolated nucleic acid molecule of claim 43, wherein the nucleic acid molecule encodes a polypeptide comprising at least 20 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46.

52. (New) The isolated nucleic acid molecule of claim 51, wherein the nucleic acid molecule encodes at least 25 consecutive amino acid residues of the amino acid sequence encoded by SEQ ID NO: 46.

53. (New) The isolated nucleic acid molecule of claim 51, wherein the polypeptide exhibits lipase activity.

54. (New) The isolated nucleic acid molecule of claim 43, wherein the nucleic acid molecule encodes a variant of the amino acid sequence encoded by SEQ ID NO: 46, wherein the nucleic acid molecule hybridizes in 6 \times SSC at about 45°C, followed by one or more washes in 0.2 \times SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.

55. (New) The isolated nucleic acid molecule of claim 43, which is selected from the group consisting of:

- a) a nucleic acid having the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof; and
- b) a nucleic acid molecule which encodes the amino acid sequence encoded by SEQ ID NO: 46.

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56. (New) The nucleic acid molecule of claim 43, further comprising vector nucleic acid sequences.

57. (New) The nucleic acid molecule of claim 43, further comprising nucleic acid sequences encoding a heterologous polypeptide.

58. (New) A host cell which contains the nucleic acid molecule of claim 43.

59. (New) The host cell of claim 58 which is a mammalian host cell.

60. (New) The host cell of claim 58, which is a prokaryotic host cell.

61. (New) A non-human mammalian host cell containing the nucleic acid molecule of claim 43.

62. (New) A method for producing an immunogenic portion of the protein having the amino acid sequence encoded by SEQ ID NO: 46, the method comprising culturing the host cell of claim 58 under conditions in which the nucleic acid molecule is expressed.

63. (New) The method of claim 62, wherein the polypeptide comprises the amino acid sequence encoded by SEQ ID NO: 46.

64. (New) The method of claim 62, wherein the polypeptide comprises at least 20 contiguous amino acids of the amino acid sequence encoded by SEQ ID NO: 46.

38. (Amended) The method of claim 64, wherein the polypeptide exhibits lipase activity.

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65. (New) The method of claim 62, wherein the polypeptide is a variant of the polypeptide encoded by SEQ ID NO: 46, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 6× SSC at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46, or a complement thereof.

40. (Amended) The method of claim 65, wherein the polypeptide exhibits lipase activity.

66. (New) An isolated nucleic acid probe or primer that comprises at least 100 nucleotide residues, has a nucleotide sequence identical to at least 100 consecutive nucleotide residues of SEQ ID NO: 45 or 46, or a complement thereof, and hybridizes in 6× sodium chloride/sodium citrate (SSC) at about 45°C, followed by one or more washes in 0.2× SSC, 0.1% SDS at 50°C with a nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 45 or 46 or a complement thereof.